

10/591726

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SEQUENCE LISTING

<110> UAB Research Foundation

<120> BRHF1 AS A CANCER DIAGNOSTIC MARKER

<130> 21085.0064P1

<150> 60/550,224

<151> 2004-03-04

<160> 21

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 105

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 1

Met	Lys	Gly	Leu	Ser	Pro	Ile	Ala	Lys	Gly	Arg	Lys	Thr	Ser	Val	Ser
1				5					10					15	
Ala	Ala	Val	Leu	Val	Ser	Thr	Thr	Ile	Pro	Ile	Ser	Ser	Val	Trp	Gly
			20					25					30		
Pro	Leu	Gln	Ile	Leu	Gly	Gln	Lys	Arg	Gly	Gln	Lys	Met	Glu	Gln	Ala
		35					40					45			
Asn	His	Pro	Val	Gly	Leu	Asp	Ile	Ser	Val	Val	Tyr	Lys	Asp	Thr	Leu
	50					55					60				
Lys	Lys	Ile	Val	Gln	Gln	Glu	Thr	Ser	Cys	Pro	Phe	Thr	His	Val	His
65					70					75				80	
Tyr	Ala	Glu	Gly	Ile	Thr	Gly	Arg	His	Thr	Ala	Pro	Glu	Asp	Glu	Gly
				85					90					95	
Ser	Leu	Ala	Gln	Lys	Pro	Pro	Ile	Arg							
			100					105							

<210> 2

<211> 270

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 2

Met	Asn	Ile	Asp	Ala	Lys	Ile	Leu	Asn	Lys	Ile	Leu	Ala	Asn	Gln	Ile
1				5					10					15	
Gln	Gln	His	Ile	Lys	Lys	Leu	Ile	His	His	Asp	Gln	Val	Gly	Phe	Ile
			20					25					30		
Pro	Gly	Met	Gln	Gly	Trp	Phe	Asn	Ile	His	Lys	Ser	Ile	Asn	Val	Ile
		35					40					45			
Gln	His	Ile	Asn	Arg	Thr	Lys	Asp	Lys	Asn	His	Met	Ile	Ile	Ser	Val
	50					55					60				

Asp	Ala	Glu	Lys	Ala	Phe	Asp	Lys	Val	Gln	Gln	His	Phe	Met	Leu	Lys	65	70	75	80
Thr	Leu	Asn	Lys	Leu	Gly	Ile	Asp	Gly	Thr	Tyr	Leu	Lys	Ile	Ile	Arg	85	90	95	
Ala	Ile	Tyr	Asp	Lys	Pro	Thr	Ala	Asn	Ile	Ile	Leu	Asn	Gly	Leu	Lys	100	105	110	
Leu	Glu	Ala	Phe	Pro	Leu	Lys	Thr	Gly	Thr	Arg	Gln	Gly	Cys	Pro	Leu	115	120	125	
Ser	Leu	Leu	Leu	Phe	Asn	Ile	Val	Leu	Glu	Val	Leu	Ala	Arg	Ala	Ile	130	135	140	
Arg	Gln	Glu	Lys	Glu	Ile	Asn	Cys	Ile	Gln	Leu	Gly	Lys	Glu	Glu	Val	145	150	155	160
Lys	Leu	Pro	Leu	Phe	Ala	Asp	Asp	Met	Ile	Val	Tyr	Leu	Glu	Asn	Pro	165	170	175	
Val	Val	Ser	Ala	Pro	Asn	Leu	Leu	Lys	Leu	Ile	Ser	Asn	Phe	Ser	Lys	180	185	190	
Val	Ser	Gly	Tyr	Lys	Ile	Asn	Val	Gln	Lys	Ser	Gln	Ala	Phe	Leu	Tyr	195	200	205	
Thr	Asn	Asn	Arg	Gln	Thr	Glu	Ser	Gln	Ile	Met	Ser	Glu	Leu	Pro	Phe	210	215	220	
Thr	Ile	Ala	Ser	Lys	Arg	Ile	Lys	Tyr	Leu	Gly	Ile	Gln	Leu	Thr	Arg	225	230	235	240
Asp	Val	Lys	Asp	Leu	Phe	Lys	Glu	Asn	Tyr	Lys	Pro	Leu	Leu	Asn	Glu	245	250	255	
Ile	Lys	Glu	Asp	Thr	Asn	Lys	Cys	Lys	Asn	Ile	Pro	Cys	Ser			260	265	270	

<210> 3

<211> 315

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 3

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atgaagggat tatcgccctat cgccaagggg aggaaaacta gtgtttctgc tgctgtgttg 60
gtgagcacia ctattccgat cagcagtgtc tggggaccat tgcagattct tgggcaaaag 120
agaggacaga aaatggagca ggccaatcac ccagtggggc ttgatatacag tgtgggtttac 180
aaggacacct taataaagat tgtccaacaa gaaacaagct gcccttcac ccatgtccac 240
tatgctgagg gaatcactgg aaggcacact gcccagagg atgaagggtc tctggcccag 300
aagcccccaa tcaga                                     315

```

<210> 4

<211> 810

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 4

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atgaacatcg atgcaaaaat cctcaataaa atactggcaa accaaatcca gcagcacatc 60
aaaaagctta tccaccatga tcaagtgggc ttcattccctg ggatgcaagg ctggttcaac 120
atacacaat caataaatgt aatccagcat ataaacagaa ccaaagacaa aaaccacatg 180
attatctcag tagatgcaga aaaggccttt gacaaagttc aacaacactt catgctaaaa 240
actctcaata aattaggtat tgatgggacg tatctcaaaa taataagagc tatctatgac 300
aaaccacacag ccaatatcat actgaatggg ctaaaactgg aagcattccc tttgaaaact 360

```

```

ggcacaagac aggggatgccc tctctcactt ctcctattca acatagtgtt ggaagttctg 420
gccaggggcaa tcaggcagga gaaggaaata aattgtattc aattaggaaa agaggaagtt 480
aaattgcccc tgtttgcaga tgacatgatt gtatatctgg aaaaccccgt cgtctcagcc 540
ccaaatctcc ttaagctgat aagcaacttc agcaaagtct caggatacaa aatcaacgtg 600
caaaaatcac aagcattctt atacaccaat aacagacaaa cagagagcca aatcatgagt 660
gaactcccat tcacaattgc ttcaaagaga ataaaatacc taggaatcca acttacaagg 720
gatgtgaagg acctcttcaa ggagaactac aaaccactgc tcaacgaaat aaaagaggat 780
acaaacaaat gcaagaacat tccatgctca 810

```

<210> 5

<211> 1263

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 5

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catctacaga actctccacc ccaaataaac agaataataca tttttttcag caccacacca 60
cacctattcc aaaattgacc acatagtgtg aagtaaagct ctcctcagca aatgtaaaag 120
aacagaaatt ataacaaact atctctcaga ccacagtgc atcaaactag aactcaggat 180
taagaatctc actcaaagcc gctcaactac atggaaactg aacaacctgc tcctgaatga 240
ctactgggta cataacgaaa tgaaggcaga aataaagatg ttctttgaaa ccaacgagaa 300
caaagacacc acataccaga atctctggga cgcattcaaa gcagtgtgta gagggaaatt 360
tatagcacta aatgcctacc agagaaagca ggaaagatcc aaaattgaca ccctaacatc 420
acaattaaaa gaactagaaa agcaagagca aacacattca aaagctagca gaaggcaaga 480
aataactaaa atcagagcag aactgaagga aatagagaca caaaaaaccc ttcaaaaaat 540
caatgaatcc aggagctggg tttttgaaag gatcaacaaa attgatagac cgctagcaag 600
actaataaag aaaaaaagag agaagaatca aatagacaca ataaaaaatg ataaagggga 660
tatcaccacc gatcccacag aaatacaaac taccatcaga gaatactaca aacacctcta 720
cgcaataaaa ctagaaaatc tggaagaaat ggatacattc ctcgacacat acactctccc 780
aagactaaac caggaagaag ttgaatctct gaatcgacca ataacaggct ctgaaattgt 840
ggcaataatc aatagtttac caaccaaaaa gagtccagga ccagatggat tcacagccga 900
attctaccag aggtacaagg aggaactggg accattcctt ctgaaactat tccaatcaat 960
agaaaaagag ggaatcctcc ctaactcatt ttatgagacc agcatcattc tgataccaaa 1020
gccgggcaga gacacaacca aaaaagagaa ttttagacca atatccttga tgaacattga 1080
tgcaaaaatc ctcaataaaa tactggcaaa ccgaatccag cagcacatca aaaagcttat 1140
ccaccatgat caagtgggct tcatccctgg gatgcaaggc tggttcaata tacgcaaatc 1200
aataaatgta atccagcata taaacagagc caaagacaaa aaccacatga ttatctcaat 1260
aga 1263

```

<210> 6

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 6

cagagcctgt

10

<210> 7

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =

Synthetic Construct

<400> 7.

ctctgggaca

10

<210> 8

<211> 375

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 8

Met	Lys	Gly	Leu	Ser	Pro	Ile	Ala	Lys	Gly	Arg	Lys	Thr	Ser	Val	Ser	1	5	10	15
Ala	Ala	Val	Leu	Val	Ser	Thr	Thr	Ile	Pro	Ile	Ser	Ser	Val	Trp	Gly	20	25	30	
Pro	Leu	Gln	Ile	Leu	Gly	Gln	Lys	Arg	Gly	Gln	Lys	Met	Glu	Gln	Ala	35	40	45	
Asn	His	Pro	Val	Gly	Leu	Asp	Ile	Ser	Val	Val	Tyr	Lys	Asp	Thr	Leu	50	55	60	
Lys	Lys	Ile	Val	Gln	Gln	Glu	Thr	Ser	Cys	Pro	Phe	Thr	His	Val	His	65	70	75	80
Tyr	Ala	Glu	Gly	Ile	Thr	Gly	Arg	His	Thr	Ala	Pro	Glu	Asp	Glu	Gly	85	90	95	
Ser	Leu	Ala	Gln	Lys	Pro	Pro	Ile	Arg	Met	Asn	Ile	Asp	Ala	Lys	Ile	100	105	110	
Leu	Asn	Lys	Ile	Leu	Ala	Asn	Gln	Ile	Gln	Gln	His	Ile	Lys	Lys	Leu	115	120	125	
Ile	His	His	Asp	Gln	Val	Gly	Phe	Ile	Pro	Gly	Met	Gln	Gly	Trp	Phe	130	135	140	
Asn	Ile	His	Lys	Ser	Ile	Asn	Val	Ile	Gln	His	Ile	Asn	Arg	Thr	Lys	145	150	155	160
Asp	Lys	Asn	His	Met	Ile	Ile	Ser	Val	Asp	Ala	Glu	Lys	Ala	Phe	Asp	165	170	175	
Lys	Val	Gln	Gln	His	Phe	Met	Leu	Lys	Thr	Leu	Asn	Lys	Leu	Gly	Ile	180	185	190	
Asp	Gly	Thr	Tyr	Leu	Lys	Ile	Ile	Arg	Ala	Ile	Tyr	Asp	Lys	Pro	Thr	195	200	205	
Ala	Asn	Ile	Ile	Leu	Asn	Gly	Leu	Lys	Leu	Glu	Ala	Phe	Pro	Leu	Lys	210	215	220	
Thr	Gly	Thr	Arg	Gln	Gly	Cys	Pro	Leu	Ser	Leu	Leu	Leu	Phe	Asn	Ile	225	230	235	240
Val	Leu	Glu	Val	Leu	Ala	Arg	Ala	Ile	Arg	Gln	Glu	Lys	Glu	Ile	Asn	245	250	255	
Cys	Ile	Gln	Leu	Gly	Lys	Glu	Glu	Val	Lys	Leu	Pro	Leu	Phe	Ala	Asp	260	265	270	
Asp	Met	Ile	Val	Tyr	Leu	Glu	Asn	Pro	Val	Val	Ser	Ala	Pro	Asn	Leu	275	280	285	
Leu	Lys	Leu	Ile	Ser	Asn	Phe	Ser	Lys	Val	Ser	Gly	Tyr	Lys	Ile	Asn	290	295	300	
Val	Gln	Lys	Ser	Gln	Ala	Phe	Leu	Tyr	Thr	Asn	Asn	Arg	Gln	Thr	Glu	305	310	315	320
Ser	Gln	Ile	Met	Ser	Glu	Leu	Pro	Phe	Thr	Ile	Ala	Ser	Lys	Arg	Ile	325	330	335	
Lys	Tyr	Leu	Gly	Ile	Gln	Leu	Thr	Arg	Asp	Val	Lys	Asp	Leu	Phe	Lys	340	345	350	
Glu	Asn	Tyr	Lys	Pro	Leu	Leu	Asn	Glu	Ile	Lys	Glu	Asp	Thr	Asn	Lys	355	360	365	

Cys Lys Asn Ile Pro Cys Ser
 370 375

<210> 9
 <211> 1125
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:/note =
 Synthetic Construct

<400> 9
 atgaagggat tatcgcttat cgccaagggg aggaaaacta gtgtttctgc tgctgtgttg 60
 gtgagcacia ctattccgat cagcagtgtc tggggaccat tgcagattct tgggcaaaag 120
 agaggacaga aaatggagca ggccaatcac ccagtggggc ttgatatacag tgtggtttac 180
 aaggacacct taaaaaagat tgtccaacaa gaaacaagct gccccttcac ccatgtccac 240
 tatgctgagg gaatcactgg aaggcacact gcccagagg atgaagggtc tctggcccag 300
 aagcccccaa tcagaatgaa catcgatgca aaaatcctca ataaaatact ggcaaaccac 360
 atccagcagc acatcaaaaa gcttatccac catgatcaag tgggcttcac ccttgggatg 420
 caaggctggt tcaacataca caaatcaata aatgtaatcc agcatataaa cagaaccaa 480
 gacaaaaacc acatgattat ctcatgatg gcagaaaagg cctttgacaa agttcaacaa 540
 cacttcatgc taaaaactct caataaatta ggtattgatg ggacgtatct caaaataata 600
 agagctatct atgacaaacc cacagccaat atcatactga atgggctaaa actggaagca 660
 ttccctttga aaactggcac aagacaggga tgccctctct cacttctcct attcaacata 720

 gtgttggaag ttctggccag ggcaatcagg caggagaagg aaataaattg tattcaatta 780
 ggaaaagagg aagttaaatt gcccctgttt gcagatgaca tgattgtata tctggaaaac 840
 cccgtcgtct cagcccaaaa tctccttaag ctgataagca acttcagcaa agtctcagga 900
 tacaaaatca acgtgcaaaa atcacaagca ttcttatata ccaataacag acaaacagag 960
 agccaaatca tgagtgaact cccattcaca attgcttcaa agagaataaa atacctagga 1020
 atccaactta caagggatgt gaaggacctc ttcaaggaga actacaaacc actggtcaac 1080
 gaaataaaaag aggatacaaa caaatgcaag aacattccat gctca 1125

<210> 10
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:/note =
 Synthetic Construct

<400> 10
 tgagcacaac tattccgatc 20

<210> 11
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:/note =
 Synthetic Construct

<400> 11
 aagcaacttc agcaaagtct cag 23

<210> 12
 <211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 12
aaaccactgc tcaacgaaat a

21

<210> 13
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 13
aagggattat cgcctatcgc c

21

<210> 14
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/note =
Synthetic Construct

<400> 14
ccgcatctac

10

<210> 15
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
synthetic construct

<400> 15
actcgtgttg ataaggctag

20

<210> 16
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/note =
synthetic construct

<400> 16
ttcgttgaag tcgtttcaga gtc

23

<210> 17
<211> 20
<212> DNA

<213> Artificial Sequence

<220> .

<223> Description of Artificial Sequence:/note =
synthetic construct

<400> 17

ctcgtgttga taaggctagt

20

<210> 18

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
synthetic construct

<400> 18

tcgtgttgat aaggctagtc

20

<210> 19

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
synthetic construct

<400> 19

cgtgttgata aggctagtcg

20

<210> 20

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
synthetic construct

<400> 20

tcgttgaagt cgtttcagag tcc

23

<210> 21

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
synthetic construct

<400> 21

gttgaagtcg tttcagagtc ct

22